

REMARKS

Summary

Claims 1, 2, 9, 10, 36 and 70 were pending and all of the claims were rejected in the present Office action. The Applicant has carefully considered the references and the arguments set forth by the Examiner, and respectfully traverses the rejections.

The claims were last amended in a response filed August 10, 2004. Since that time, the unamended claims have been rejected over numerous references cited by the Examiner. Responses filed on November 15, 2004, February 28, 2005, June 20, 2005 and August 1, 2005 have successfully traversed the Examiner's rejections without amending the claims, as evidenced by the withdrawal or modification of the rejections or the citation of new references to make a new rejection of the present claims. The Examiner has searched the classification of the new secondary reference three times before identifying the reference as being relevant. The Applicant respectfully calls attention to MPEP §707.07(g), where the principle that the examination of a patent should not be done in a piecemeal manner is articulated.

Claim Rejections

35 U.S.C. § 103 (a)

Claims 1, 2, 9, 36 and 70, were rejected over Schaeffer (US 4,315,171; "Schaeffer") in view of Matsunobu et al. (US 6,429,565; "Matsunobu"). The Applicant respectfully traverses this rejection on the basis that the Examiner has not made out a *prima facie* case of obviousness.

The Examiner asserts that Shaeffer shows all but one of elements and limitations of the claimed invention in Figure 22 (Schaeffer), but accepts that Schaeffer does not show "an angular pitch of the rotor-opposing and an annular

pitch of the permanent magnet poles, as measured about an axis of symmetry of the rotor, differ from each other.” (Office action, page 3). The examiner asserts that Matsunobu shows “an annular pitch of the rotor-opposing surfaces, as measured about an axis of symmetry of the motor, differ from each other (Figure 1) for the purpose of reducing cogging torque.” (Id.)

Referring to Fig. 22 of Schaeffer, element 86 “comprises an entire stator assembly...The stator segment 86 contains three groups of two poles each, the poles in each pole group being wound to provide opposite polarity on the two poles when energized. The pole groups are staggered....” (Shaeffer, col. 13, lines 31-38).

Adjacent poles in Fig. 22 are seen to be wired such that the coils of the two poles in a pole group are energized simultaneously, and are of opposite magnetic polarity. The angular pitch of the poles in a pole group and the angular pitch of the permanent magnets in the rotor are the same. To the extent that the Examiner appears to suggest that that the angular pitch of the poles in the pole group taught by Schaeffer may be set to be different from that of that of the rotor, depending for support on the teachings of Matsunobu, the effect of adjacent poles being energized with different magnetic polarities is, *inter alia*, that the net torque is reduced from that taught by Schaeffer. This is evident from the limiting situation which would obtain if the angular pitch of the poles were either twice or half that of the rotor, where the net torque on the rotor would be zero and no rotation at all would occur.

The secondary reference, Matsunobu, is cited to suggest a modification of the primary reference, Schaeffer. A motivation to combine the references must be provided by the Examiner. Such a modification must result in a beneficial improvement to the primary reference, in order to be considered a motivation to combine. But, the modification of the primary reference, Schaeffer, in view of the Examiner's asserted teachings of Matsunobu, would result in poorer performance

of the device taught by Schaeffer, as explained above. Hence, the Examiner has not provided a motivation to make the change to Schaeffer. The Applicant respectfully submits that any suggestion to make such a modification has been derived from the Applicant's teachings. For at least these reasons, a *prima facie* case of obviousness has not been made out and Claim 1 is allowable. Claims 2 and 9 are dependent on allowable Claim 1 and are allowable without more.

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Schaeffer in view of Matsunobu and further in view of Tamae et al. (US 4,979,423; "Tamae"). Claim 10 is dependent on allowable Claim 1, and is allowable, without more.

With respect to Claims 36 and 70, the Examiner has made a generalized statement as to the applicability of the references, without any specific indication of the aspects of the references which are to be applied. As such, the rejection is flawed in that it does not present the Applicant with a reasonable opportunity to appropriately traverse the rejection. The Applicant respectfully requests that the Examiner withdraw the rejections of Claims 36 and 70 and, if the claims are to be rejected again, to make the rejection with specificity in a subsequent non-final Office Action.

Interview Summary

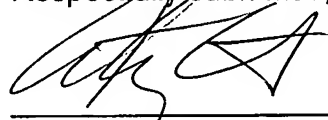
On August 10, 2005 a personal interview was held between A. Curtis, PhD, representing the Applicant, Mr. J. Kobayashi, representing the Assignee, and the Examiner. The participants express appreciation to the Examiner for his courtesy in providing an opportunity to discuss the issues. In particular, the relevance of the Field II, Schaeffer and Wavre references were discussed, however no agreement was reached in this regard.

Conclusion

Claims 1, 2, 9-10, 36, and 70 are pending. For at least the reasons given above, the Applicant respectfully submits that claims are allowable.

The Examiner is respectfully requested to contact the undersigned in the event that a telephone interview would expedite consideration of the application.

Respectfully submitted,



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